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NOTES, ABSTRACTS, AND REVIEWS.

CLIMATIC OR CALENDAR YEAR?

A board composed of Central Office officials of the Weather Bureau was appointed on June 15, 1921, to be known as the Board On Rainfall Observations and Severe Local Storms. Among the subjects considered by that board was that of printing statistics of rainfall on the basis of a climatic rather than the calendar year. The Board endeavored by several means to ascertain the views upon such a change that were held by engineers and other users of rainfall data. Finally it was deemed advisable to circulate a questionnaire through the medium of the MONTHLY WEATHER REVIEW. The questionnaire was inclosed in the July, 1921, REVIEW. To date about 1 per cent of the questionnaires have been returned. A poll of the replies shows that no definite conclusion was reached, the number of votes being very equally divided between the affirmative and the negative. The board therefore concludes that for the United States proper, excluding California, no change from present practice is desirable. For California the data will be published on the basis both of a calendar and a climatic year. The latter to begin with July 1 and to end with June 30.

The discussion brought out no new viewpoints; a number of those opposed to the change seemed to adopt the idea expressed by a member of the engineering staff of a western university, as follows:

> What we desire in the Government publication is the record, and that is best preserved and referred to by the calendar year. If any engineer or meteorologist wants to make any arbitrary division into "climatic" years it would seem a simple matter to do so.

—*A. J. H.*

LONG-RANGE FORECASTS IN ENGLAND.

So far as is known, the first official and authentic forecast of weather for as long a period as two weeks was made in September, 1921, by the British Meteorological Office. On page 279, of the *Meteorological Magazine* for November, 1921, is to be found a note by E. V. Newnham, in which this forecast is discussed. The *Meteorological Magazine*, in introducing the note, mentions that two points of importance should be emphasized: "(1) That it is not at present possible to extend the 'Further Outlook' to such long intervals as a general rule, and (2) That the method adopted is the systematic use of well-classified experience."

Mr. Newnham gives a figure showing the barometric distribution on the morning of September 26, 1921. There was a large anticyclone, classified by Gold as Type VIIIB, over the British Isles. "This," he says, "is obviously a very favorable type for dry weather at any time of year. Additional reasons existed for expecting prolonged fair weather on this occasion, such as would not generally apply to other cases of Type VIIIB * * *." Upon examination of past records when this type of anticyclone occurred, in September, it was found that only once in the seven occurrences since 1907 did the break-up of the weather control occur in less than a fortnight. Upon this basis the following forecast was issued on September 26:

> Mainly fair and dry weather is probable for the next week or 10 days over the southern half of the Kingdom.

Two days later this was supplemented by the statement:

> Over the eastern and central parts of England, south of the Humber, the chances are distinctly against a definite break up of these conditions within the next fortnight.

In discussing what actually happened, the writer shows that the 10-day forecast was not wholly successful for part of the area referred to, but that the 14-day forecast for the eastern counties was successful.

He concludes:

> The large area covered by the working charts of to-day should make it possible to attempt further long-period forecasts of the general character of the weather from time to time. It seems not unreasonable to hope for greater success with these than with regular 24-hour forecasts of the detailed character of the weather, since the minor eccentricities of the weather, which so often cause failure in a 24-hour forecast, become relatively unimportant during the longer period.

In this connection it is interesting to note that in Mr. E. H. Bowie's chapter on "Long Range Weather Forecasts," in *Weather Forecasting in the United States*, page 347, he points out the possibility of using HIGHS in this manner. "When these conditions of pressure distribution," he says, "become firmly established the forecaster is able to take advantage of them and thus to extend the outlook generally as much as a week beyond the 36-hour period of the morning forecast."—*C. L. M.*

NOCTURNAL RADIATION ON MOUNT BLANC.

By A. BOUTARIC.

[Abstracted from *Comptes Rendus*, Dec. 19, 1921, pp. 1393-1394.]

This paper is based upon observations of nocturnal radiation made on Mount Blanc (4,350 meters altitude) between July 30 and August 7, 1921. These observations with which only those made by Anders Ångström on Mount Whitney, Calif. (4,420 meters altitude), are comparable, were made with an Ångström actinometer. From his observations the author computed the following values of the ratio between the nocturnal radiation and the radiation of a black surface at the absolute temperature θ_0, where $\theta_0 = t_0 + 273$, t_0 being observed:

Aug. 1	0.400
2	.326
5	.415
6	.379

When the measures made by registering instruments were studied, it appears that the maximum occurs a little after sunset and decreases slightly through the night. This observation agrees with others by the author at Montpellier and on the Pic du Midi, much lower stations. This result is contrary to that obtained by LoSurdo at Naples and Exner on the Sonnblick.

Contrary to the general opinion, nocturnal radiation at great altitudes is not exceptionally intense, and is of the same order of magnitude as lower stations. The observations on Mount Blanc give practically the same result as those by Ångström on Mount Whitney.—*C. L. M.*

SHALL CLIMATOLOGICAL DATA BE PUBLISHED FOR A "CLIMATIC" RATHER THAN A CALENDAR YEAR?

By ALFRED J. HENRY, Meteorologist.

[Dated September 9, 1921.]

The Weather Bureau has been confronted on several occasions by the proposal to print climatological data for a time unit other than the calendar year.

By reason of the distribution of precipitation on the Pacific coast the people of that section, for example, have consistently urged the printing of precipitation data on the basis of a 12-months period beginning July 1 and ending June 30 of the following year. This demand has been met on the part of the bureau by printing the precipitation records of California in Weather Bulletin W on the basis as stated above as well as for the calendar year.

Recently, however, a request has been received from an eminent engineer of the Pacific coast suggesting that the climatological data for the country, as a whole, be published for a climatic year rather than the calendar year. The letter, in part, follows:

SAN FRANCISCO, CALIF., *July 23, 1921.*

DR. C. F. MARVIN,
Chief, U. S. Weather Bureau, Washington, D. C.

DEAR DR. MARVIN:

I desire to request a change in the annual publication of meteorological data, which I know has received consideration in the past, but has not hitherto been looked upon with favor. But as its merit is, I think, unquestioned and because I fail to see any weighty reason why it should not be adopted by the Weather Bureau, with a view to improving its usefulness to the public, I venture to repeat it.

My request is, that your annual summaries should apply, throughout the whole country, to a climatic year and not to a calendar year. I need not tell you that the midwinter dividing line is absurd and confusing. It should never have been adopted.

The best line of demarkation is about September 1, but even October 1 would do, because—

1. At this time of year there is throughout the country a considerable period in which but little or no rainfall is expected.
2. At this time of the year all the rivers are at their annual low stages. Their winter, spring, and summer high stages reflect the effect of the climatic year's precipitation. At no other time of the year can a division into 12-month periods be made for which this is true.
3. By beginning or terminating the 12 months' record in the fall, the snowfall of the winter months, the ice periods of the rivers, as well as the heavy rains of the Pacific coast and the spring storms of the Atlantic and Southern States, are all kept within the climatic year instead of being split up, as heretofore, in two calendar years.
4. This matter is of particular importance throughout the West and Southwest, where the relations between rainfall and run-off is constantly under study and where the use of calendar annual totals of rainfall and run-off, and the comparison of these with each other, could not be other than misleading.

* * * * * * *

Sincerely yours,

(Signed) C. E. GRUNSKY.

Inclosed as a folder in the July 1921 Review. See the December 1921 Review.

Meteorological and climatological observations since the very beginning have been published for the civil month and the calendar year, and this practice which is current all over the globe must be in the main satisfactory, since there has not been any serious effort made to depart from the calendar year; moreover, and to our mind, this is the most serious objection to the change. The International Meteorological Committee, since its first meeting at Vienna in 1874 has consistently worked for and urged unity of methods both in observing, compiling, and printing the observational material.

Under these circumstances, the introduction of the radical change proposed by an exceedingly small minority of users of climatic data could hardly be made without presenting the proposal to the great body of students who use the reports in their present form with no comment or remonstrance whatever.

The proposition advanced by Mr. Grunsky has two entirely different aspects, viz, the local and the international. It is, of course, entirely within the province of any organized meteorological service to publish climatological statistics in such form and for such periods as may be the most convenient to the users of the data; on the other hand, the courtesy by which one nation recognizes and gives effect to the laws or practices of another nation—the comity of nations—makes it incumbent upon us to continue to print upon the calendar year basis until a change has been formally agreed upon by the duly created international authority.

The Merits of the Climatic Year: The proponent of the suggested change has set forth in some detail the arguments for a change; in general we are in accord with the great majority of his statements, although we probably place less importance on some of them than he does. One other weighty reason for the change not mentioned is the fact that the Water Resources Branch of the U. S. Geological Survey has been publishing for some years the data of stream flow on a climatic or water year that begins on October 1 and ends with September 30 of the following year.

In a cooperative study between the Weather Bureau and the Forest Service of relations between stream flow, deforestation, and weather conditions, the advantages of a year beginning in October were recognized and adopted in an unpublished manuscript by an official of the Weather Bureau, in view of its points of merit.

These facts are mentioned simply to show that the Weather Bureau is not opposed to the suggested change, but rather it welcomes the opportunity of having a very full and free discussion of the advantages and the disadvantages of the change, The bureau realizes, perhaps more than do those not in touch with the world-wide situation of meteorology, the necessity of maintaining the calendar year basis; it would seem, therefore, that any change must be some compromise

between the two interests. This can be effected, I think, by the adoption of a blank form such as is presented below for use in publishing the monthly totals of precipitation and perhaps monthly mean temperature.

Blank schedule illustrating a method of tabulating data for both the calendar year and a seasonal year beginning October 1:

PRECIPITATION.

Year 1920.			Year 1921.													
October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	September.	Sum. Oct.-Sept. Incl.	October.	November.	December.	Annual. 1921.
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The object of the present note is to stimulate and invite discussion from the largest number of persons possible. A beginning has been made, and a number of letters have been received from officials of the U. S. Reclamation Service, to whom our thanks are due. There are doubtless many others, especially engineers in private practise, who may have valuable suggestions to offer. The questionaire below has been prepared for the use of those who may wish to contribute to the discussion. If you are a user of the precipitation data printed by the Weather Bureau, kindly fill up, detach, and mail to the Chief of Weather Bureau, Washington, D. C.

QUESTIONAIRE AS TO PRINTING PRECIPITATION DATA FOR A CLIMATIC RATHER THAN THE CALENDAR YEAR.

(Place and date) ______________________________

Is a change from the present plan desirable? ______________________
(Answer yes or no.)

If the answer is in the affirmative, when should the climatic year begin? (Answer) ____

Would you include monthly mean temperature in the change?

(Answer) ____

Use an additional sheet if further remarks seem necessary.

(Signed) ____